



ONE WORLD,

ONE MEDICINE,

ONE HEALTH

One Health Intellectual Exchange

Weekly Discussions / Course: Philosophy to Practical Integration of Human, Animal and Environmental Health

A weekly discussion series, sponsored by the **North Carolina One Health Collaborative** within the NCBC IEG Program to enhance collaborations between physicians, veterinarians, researchers and other local/global/environmental health professionals by increasing public awareness of the interconnectedness of people, animals and the environment.

(Available each spring for credit if desired)

**4th 2013 Weekly Session - Tuesday, February 5
5:30 – 7:30 p.m.**

**Wildlife tuberculosis on the move in Southern Africa:
a One Health perspective**

**Anita Michel, DVM, PhD
University of Pretoria**

Meets Tuesdays, 5:30 – 7:30 p.m. at the North Carolina Biotechnology Center
15 T.W. Alexander Drive Research Triangle Park, NC 27709
Directions: www.ncbiotech.org/directions/

Suggestions? Ideas? Contact Cheryl Stroud, Steering Comm. Chair cms7earth@gmail.com
Add yourself to the listserv with Listserv Manager Liz Selisker, liz_selisker@ncsu.edu
For Speaker Bio's, Suggested Readings, Cancellation notices and additional background

<http://nconehealthcollaborative.weebly.com/index.htm>

<http://triangleglobalhealth.ning.com/group/tghcnehealth>

<http://onehealtheducation.blogspot.com/>

For more information on the course option contact: Course TA Anne Stine anne.stine@duke.edu

Mamie Harris at UNC msharris@med.unc.edu

Chris Woods at Duke chris.woods@duke.edu

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Anita L. Michel, DVM, PhD

BVSc (Germany) DVM (Germany) PhD (The Netherlands)

Associate Professor: Bacteriology

Department of Veterinary Tropical Diseases, Faculty of Veterinary Science
University of Pretoria

As a graduate of the Veterinary Faculty of the Ludwig Maximilians University of Munich, Germany, Anita Michel started her professional career in 1988 with a research project in molecular virology at the Max-Planck Institute for Virology in Martinsried, Germany, and subsequently obtained the degree of Dr med vet from above university. In the following year she joined the Onderstepoort Veterinary Institute (OVI) in South Africa as a junior veterinary researcher in virology. Following six years of epidemiological research and development of a diagnostic test for bovine malignant catarrhal fever Dr. Michel switched to the Bacteriology department within the OVI to conduct research and diagnostics on mycobacterial diseases. During the next 7 years promotion to senior researcher, head of the Tuberculosis Laboratory, head of the Bacteriology Department and subsequently program manager of the overarching research program on veterinary public health and food safety followed. A division in her professional focus between research and diagnostics including ISO accreditation of all laboratories under her supervision, the completion of her PhD thesis on bovine tuberculosis (Utrecht University, The Netherlands) had to wait until 2008. In May 2009 Dr Michel took up an academic position as Associate Professor at the Faculty of Veterinary Science of the University of Pretoria where she now teaches veterinary students and continues her research on bovine tuberculosis and brucellosis. From here Prof Michel expanded her interest into the field of One Health and the impact of zoonotic diseases at the wildlife/livestock/human interface.

Dr. Michel's 60 peer reviewed publications reflect the clear emphasis of her research career over the past 22 years on animal tuberculosis and its implications on wild and domestic animals as well as humans. Publications, FAO expert consultancies, invitations as keynote speaker (e.g. the IVth International *Mycobacterium bovis* conference) and a steadily expanding network of national and international collaborators facilitated successful application for research grants and were instrumental in gaining international recognition and rating (B2) by the National Research Foundation. Most recently, in September 2012, Prof Michel hosted the 1st International Wildlife Tuberculosis Conference in the Kruger National Park, South Africa, where 120 delegates from 22 countries gathered to exchange the latest research knowledge.

Abstract:

In recent years it has become evident that the role of wildlife in the epidemiology of bovine tuberculosis (BTB) has been greatly underestimated, both in developing countries as well as in the developed world. With the breakdown of traditional control programs and the lack of an effective vaccine, it is almost impossible for affected countries to eradicate or even prevent the further spread of this chronic disease.

Suggested Readings:

Bengis, R.G., Kriek, N.P.J., et, D.F.a, Raath, J.P.c, De Vos, V.c, Huchzermeyer, H.F.A.K. An outbreak of bovine tuberculosis in a free-living African buffalo (*Syncerus caffer* - Sparrman) population in the Kruger National Park: A preliminary report. Onderstepoort Journal of Veterinary Research, Volume 63, Issue 1, 1996, Pages 15-18
<http://www.ncbi.nlm.nih.gov/pubmed/8848298> and <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2953980/>

Michel, A.L., Bengis, R.G., Keet, D.F., Hofmeyr, M., de Klerk, L.M., Cross, P.C., Jolles, A.E., Cooper, D., Whyte, I.J., Buss, P., Godfroid, J. 2006. Wildlife tuberculosis in South African conservation areas: implications and challenges. 2006. Vet. Microbiol. 112:91-100. Online pdf.

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDwQFjAB&url=http%3A%2F%2Fwww.researchgate.net%2Fpublication%2F7425902_Wildlife_tuberculosis_in_South_African_conservation_areas_implications_and_challenges%2Ffile%2Fd912f5061eadd62144.pdf&ei=oAEGUZLuAYLp0gGL3CIAw&usg=AFQjCNHZulpcvmlvsSYN83_t6akSqFs6Q&bvm=bv.41524429,d.dmQ

Michel, A.L., Müller, B., van Helden, P.D. 2010. *Mycobacterium bovis* at the animal–human interface: A problem, or not? Veterinary Microbiology, 140: 371-381. <http://www.ncbi.nlm.nih.gov/pubmed/19773134>

Additional online reading: "Tuberculosis – What Makes it an Ideal Disease for the Interface?"
http://www.wcs-ahead.org/abstracts/ab_michel.html